Perceptual and Motor Skills, 1985, 60, 827-830. © Perceptual and Motor Skills 1985

DEATH ANXIETY AS A SEMANTIC CONDITIONED SUPPRESSION PARADIGM

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Summary.—Death anxiety and more severe forms of thanatophobia are encountered frequently in the clinical population. However, approaches that allow behavioral solutions to these experiences are conspicuously absent in the literature. From an operant perspective, death anxiety arises from repeated exposures to direct and implicit forms of the statement "I will die". It is the semantic *equivalent* of a conditioned suppression paradigm. Historically, the human organism has attempted to reduce the aversive consequences of this reinforcement schedule by extinguishing one of its three components. The "solutions" characterize the fundamental philosophical and religious treatments of death anxiety. A behavioral semantics approach is proposed as suitable for dealing with death anxiety of areligious, educated young adults, particularly those dying of terminal diseases.

Language can be considered as complex and subtle arrangements of semantic reinforcement schedules. Individual words and phrases are conditioned (classical) or are discriminative (operant) stimuli for the experiences in a person's reinforcement history; obviously, they are also a component of the reinforcement history. Like traditional reinforcement schedules, different response profiles are generated by specific space-time patterns of reward or punishment. The principle of contiguity still operates for the effectiveness of these operations. However, spatial contiguity is measured as the semantic distance between references to reward or punishment words and temporal contiguity is reflected by the speed of presentation, that is, how fast the person reads or engages in private behaviors.

The simplest and most powerful example of semantic contiguity is the predicate sentence, such as "the rat is good", "I am good" or "God is good". These three examples illustrate the operation by which an object (rat), a label for the locus of behaviors (I) or an abstract word (God) becomes paired with the word "good;" this assumes that the word "good" has been paired with positive (reward) stimuli. "Will" is the semantic representation for anticipation of delivery of reinforcement. Introduction of "will" into the semantic reinforcement schedule significantly alters the consequences. If the expected stimulus is negative (aversive), then private reports of anxiety and overt disruption or cessation of ongoing behaviors occur. They are different forms of conditioned suppression.

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The most pervasive semantic conditioned suppression schedule is some variant of the statement *I will die* if the word "die" (or its equivalent) has been paired with potent negative stimuli. These stimuli may include dead organisms, pain, or the observed crisis behaviors of other people. "Will" is the semantic equivalent for the temporal component of the schedule; "will" invokes the anticipation of negative stimuli (anxiety). Finally, the "I" refers to the locus of behaviors to which the negative stimulus will be delivered. Considering the persistent nature of death-related stimuli, the "I will die" sequence or its inference through implicit chains must be evoked many times, mostly as covert responses, during a person's lifetime.

A behavioral analysis differentiates three strategies by which the human organism may attempt to reduce the anxiety associated with the semantic sequence "I will die": (a) elimination of aversive aspects of "die", (b) attenuation of the importance of "I", and (c) removal of the anticipatory or "will" component of the schedule. Each strategy comprises the central core of philosophical and religious themes that have been used by aggregates of people (cultures) to reduce death anxiety (1), as evident by the conspicuous display of these behaviors in the presence of death stimuli. Religious beliefs and rituals are reinforced by making the removal of death anxiety contingent upon their display.

The first solution eliminates the aversive components of the schedule by implying or stating "I will *not* die". This negative reinforcement (removal of an aversive stimulus) is expressed in two fundamental forms by which some subset of "I", such as spirit, soul, beta, or mind, continues in a linear direction (going to heaven) or a circular fashion (reincarnation). The critical feature is the elimination of death as a terminal event. Any specific sequence of belief is assumed to be reinforced by its consequences: the more the death anxiety is reduced by displaying the belief (through private soliloquies or discussion with friends), the more it is reinforced. The absolute validity of the statements is not necessary; it makes no difference if God really exists or not.

The linear solution involves pairing words that indicate all-space, all-time (infinity and eternity), the essential descriptors for major dieties. The association is made by statements such as "I am God's child" or "I am a Christian". Through this pairing, "I" acquires contingent qualities of infinity and eternity within which there is no end and hence no death. Circular (reincarnation) solutions are particularly potent for reducing individual anxiety about the event and concept of death as long as the form for continuation is maintained. (Behavioral analysis predicts the excessive aggression displayed by the middle east groups who feel they are always reincarnated within the same gene pool; genocide would eliminate this "option".)

The second solution attenuates the importance of the "I" in the death

anxiety paradigm as is typical of classical Eastern philosophies. Preoccupation with the survival of an "I" or self is discouraged by identifying the self as a social fiction (3). Covert or overt behaviors that emphasize the unique or special aspects of a "thinking self" are not rewarded. However, some "essence" or subset of the individual is considered to be a component of "an infinite and eternal Whole." Since the "I" is a social fiction and the person is a part of The Eternal Cosmic Whole, the anxiety of death extinction may be minimized. Unlike the first solution, this strategy does not emphasize continuation of individual characteristics. Consequently, this approach may be anxiety-provoking for persons who display very egocentric behavioral patterns.

The third approach concerns the temporal components of the schedule. Since "will" or the anticipation of an aversive stimulus may be assumed to be symbolic of a primary source of the anxiety, the third approach changes the future tense to the present. Essentially, the semantic theme is "I am dying". This form may be seen clearly within the varieties of idiosyncratic existential approaches to death-anxiety wherein death is viewed as beginning at birth and as continuing throughout life; the death act is simply a minor punctuation (1).

Interpretation of death anxiety as a possible consequence of repeated exposures to the variants of the semantic sequence "I will die" allows a fresh approach to thanatology. There are substantial numbers of educated young adults who do not find traditional religious explanations effective reducers of death anxiety, particularly in the context of the present Zeitgeist of nuclear holocaust. The problem may be acute within groups of highly educated and areligious young adults who are dying of terminal disorders.

If death anxiety is a consequence of myriad repetitions of specific verbal patterns, then it can be reduced by changing these verbal patterns. Verification of this hypothesis requires reliable samples of the person's verbal behavior (spoken and written), preferably unedited, from various contexts. The language patterns would be analyzed precisely by discourse analyses, such as the method by Fredericksen (2). Although evaluations of these language patterns in different psychiatric populations have been tried previously (4), the verbal behaviors were not translated into the equivalents of rewards and punishers and semantic distances were not considered.

There should be strong negative correlations between death anxiety and the numbers of times the words that describe the self (such as "I") are paired with the removal of death symbols. Examples would be "I am a spirit" or "I am a child of God". Subjects who display these phrases with minimal semantic distance between the "I" and the words that remove the death stimuli, should show the greatest reduction of death anxiety over time.

Clinical reduction of death anxiety should be facilitated by shaping the

patient to speak in these patterns and to read semantic forms (such as classic esoteric literature) that emphasize the close verbal proximity between references to the self and references to removal of death as a terminal event. Whereas orthodox religious patients might prefer references to structured forms of survival, secular patients should respond optimally to more abstract, eastern ideas. The approach should be most successful in controlled situations, such as the ward or hospital setting, where the language patterns of support staff can be monitored and modified to reinforce the patient's reduction in death anxiety.

REFERENCES

1. FEIFEL, H. *The meaning of death.* New York: McGraw-Hill, 1965.
2. FREDERICKSEN, C. H. Representing logical and semantic structures of knowledge acquired from discourse. *Cognitive Psychology*, 1975, 7, 371-458.
3. GARFIELD, C. A. Consciousness alteration and the fear of death. *Journal of Transpersonal Psychology*, 1975, 7, 147-163.
4. LORENZ, M., & COBB, S. Language patterns in psychotic and psychoneurotic subjects. *Archives of Neurology and Psychiatry*, 1954, 72, 665-673.

Acceped March 22, 1985.